UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,163	08/04/2005	Arthur J. Roth	03752.400200.	9165

5514 7590 08/14/2009

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
COLE, ELIZABETH M	
ART UNIT	PAPER NUMBER
1794	
MAIL DATE	DELIVERY MODE
08/14/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,163	ROTH ET AL.	
	Examiner	Art Unit	
	Elizabeth M. Cole	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *68-70,72-75,77-84,88,120,121,124 and 126* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-70,72-75,77-84,88,120,121,124 and 126* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 68-70, 72-75, 77-84, 88, 120-121, 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motoi et al, U.S. Patent NO. 6,605,343 in view Schroll et al, U.S. Patent no. 5,366,773. Motoi et al discloses a method of making a composite material comprising providing a fibrous layer, applying a thermosetting resin precursor to the fibrous layer, forming the layer into a tube, (which corresponds to the claimed sleeve-like configuration), injecting a fluid matrix resin into the sleeve and holding the components so that they are held in place and subjected to heating and cooling in order to foam and cure the components. See col. 27, line 39 – col. 29, line 24, as well as figure 12. Motoi teaches that suitable resins for the thermosetting resin precursor include polyurethanes, phenolic resins, polyester, epoxy resins, urea reins, and melamine resins. See col. 15, lines 31-38. Urea melamine and melamine formaldehyde resins are not specifically disclosed by Motoi, however, since Motoi teaches urea and melamine resins broadly, the person of ordinary skill would have been able to select particular known types of these resins for use, in view of the art recognized suitability. Motoi teaches that suitable thermoplastic resins include polystyrene resins. See col. 11, lines 21-31. Motoi teaches that composite may further comprise various fillers including vitreous materials such as ground glass, carbonaceous materials, plastics and rubbers. See col. 6, lines 31-49. With regard to the particular amounts of filler used, since the filler is used to reinforce and also to either increase or decrease the weight of the composite, it would have been obvious to one of ordinary skill in the

art at the time the invention was made to have selected the particular amounts through the process of routine experimentation which produced the desired weight, strength, etc. Suitable fibrous materials for use in the invention of Motoi include glass and polyester fibers. See col. 18, lines 38-50. While Motoi teaches the general process as set forth above, Motoi does not specifically teach providing a layer of porous web material and a layer of parallel strands as the sleeve forming material , wherein the porous material is on the outside of the sleeve in a single embodiment. However, Motoi teaches that the outer layers of the composite material can comprise one or more layers of fibrous material such as parallel fibers, unidirectional fibers, bidirectional fibers and sewn mats. See col. 12, lines 14-27. Bidirectional mats are equated to the claimed laterally connected parallel fibers extending in the longitudinal direction of the web material. Motoi further teaches additional reinforcing layers of paper can be added to the structure as well as film layer such as polyvinyl alcohol, see col. 18, lines 37-50 and col. 14, line 67 – col. 15, line 5. Therefore, the person of ordinary skill would have recognized that Motoi teaches the claimed elements and teaches that the elements can be combined by the process as set forth above at col. 27-29. Motoi teaches the outer sleeve comprising the parallel fibers, the resin impregnation, the shape stabilization, and curing of the resin precursor. While Motoi does not teach adding the outer paper layer, the polyvinyl alcohol layer or the additional fibrous layers to the embodiment set forth at cols. 27-29, since Motoi teaches that such additional layers can be added to the composite material in order to further strengthen the composite material, one of ordinary skill in the art would have been able to select additional layers, such as the claimed porous web material layer and polyvinyl alcohol layer, in view of the teaching of Motoi that such layers can be added to the composite material. With regard to the newly added limitations,

Motoi does teach including a polyvinyl alcohol layer as one of the possible surface layers and presumably the PVOH layer would function as a barrier layer since it is the same material. Motoi differs from the claimed invention because it does not teach shaping the sleeve on a mandrel. However, Schroll et al teaches a process for making a tubular member comprising an outer shell of a fiber reinforced polymer such as an epoxy resins wherein the fibrous reinforcement is a combination of a fiber roving of aligned parallel continuous fibers and a mat reinforcement (col. 4, lines 50-52 and col. 3, lines 47-50) comprising impregnating the roving and mat with an uncured resin and then wrapping and shaping the combined fiber elements around a mandrel. See col. 3, lines 47 – col. 4, line 14. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have shaped the sleeve of Motoi on a mandrel, since Schroll teaches that a mandrel is useful for shaping tubular members comprising outer layers of fiber reinforced polymer.

3. Claim 126 is rejected under 35 U.S.C. 103(a) as being unpatentable over Motoi in view of Schroll as applied to claims above, and further in view of McNeely et al, U.S. Patent No. 3,855,031. Schroll teaches a mandrel for use in forming tubular members, but differs from the claimed invention because it does not disclose that the mandrel comprises a passage through which resin is supplied. McNeely teaches a mandrel for use in forming tubular materials which comprise resin impregnated fibrous layers which comprises an interior passage through which resin is supplied to the materials forming the tubular member. See col. 7, lines 12-45. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a mandrel having an interior passage through witch resin is supplied as taught by McNeely in the invention of Schroll, in order to provide a process wherein the

layers of the tubular material are saturated with resin and wherein the excess resin is removed as taught by McNeely.

4. Applicant's arguments filed 6/4/09 have been fully considered but they are not persuasive. Applicant argues that Motoi does not teach the claimed single strip to which the epoxy precursor and cords are applied and does not teach the claimed mandrel. However, Motoi does teach supplying a layer and then applying the epoxy and parallel cords to the layer. The initial layer corresponds to the claimed single strip to which the other components are applied. While Motoi does not teach employing a mandrel, but instead employs a movable mold, the person of ordinary skill in the art would have been able to use other known methods and apparatuses for forming and shaping a layer. A mandrel was a known alternative means for shaping a resin impregnated material in to a sleeve or tube. While Motoi employs a different means, the use of an alternative known mean would have been within the skill of the ordinary artisan and would have produced a predictable result of shaping the web into a tube or cylinder. Schroll teaches the particular method by which a web which comprises a reinforcing tape layer and a layer of continuous fibers can be shaped by a pultrusion method wherein a mandrel is employed to shape the web into a tube. It is not necessary that the two methods or two apparatuses employed can be completely bodily incorporated into each other in order for the person of ordinary skill in the art to recognize that the method of the primary reference could be modified by incorporating the teachings of the secondary reference.

5. With regard to new claim 126, a new grounds of rejection is set forth above.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

e.m.c